



U.S. Environmental Protection Agency Great Lakes National Program Office (GLNPO) Significant Activities Report

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July 2007

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LAKEWIDE MANAGEMENT PLANS

Lake Superior Day Celebration

The third annual Lake Superior Day was celebrated around the basin on Sunday, July 15, 2007. The Lake Superior Binational Forum distributed educational materials and helped support approximately 20 events in 12 communities in Michigan, Minnesota, Wisconsin, and Ontario. The Binational Forum is funded in the U.S. by a GLNPO grant from the U.S. EPA and in Canada by Environment Canada. The purpose of the day is to educate people about lake issues, special places, and recreational opportunities by highlighting the im-



Along the North Shore of Lake Superior

portance of the world's largest freshwater lake to the region's economy, environment, and quality of life.



The Cascade River enters Lake Superior

The city of Superior, Wisconsin has held an annual event since 2003. The day included a Native American drum circle and songs, a beach clean up contest with prizes, poetry about Lake Superior read by members of the Lake Superior Writers organization, essay contest winners from grades K-6, a free picnic, and live music by the Superior-based band Arcadia. The event also hosted displays by the Great Lakes Aquarium, Maritime Museum, U.S. Coast Guard, University of Wisconsin-Superior and the Great Lakes Fleet. Other events included a concert in the park in Marquette, Michigan organized by U.S. Forum members Rev. Jon Magnuson of the Cedar Tree Institute in Marquette, and Carl Lindquist, director of the Superior Watershed Partnership. This included the Boreal Chamber Symphony playing classical and new music at a local restaurant. Iron County native Evan Premo was commissioned to create a new work for the concert.

Another new event this year was celebrated in Marathon, Ontario, with a barbeque, a community clean up, children's art activities about the lake, and a series of displays. A full list of events can be found on the Forum's web site at www.superiorforum.info. Over the last three years, almost 40 governors, mayors, and other community leaders have signed proclamations designating the

third Sunday in July as Lake Superior Day.

Lake Superior Day Awards

At a ceremony in Superior, Wisconsin, the Lake Superior Binational Forum made awards to several U.S. and Canadian groups for their environmental achievements from the past year. This year's winners in each category were:

U.S.

Individual (a tie):

- **Bob Olsgard** worked as the Lake Superior Alliance coordinator for about 10 years, which included writing and editing its journal, *Superior Vision*. The Alliance was formed to monitor and promote the goals of the Lake Superior Binational Program, and to coordinate an active voice for over 30 groups around the lake.
- **Jill Jacoby** came to Duluth in 1992 to develop a citizen-based outreach, education, and water-monitoring program called the St. Louis River Watch. She pioneered projects that brought together artists and scientists to discuss water quality problems of the St. Louis River and Lake Superior. The artists transformed those discussions into their artwork, which was displayed at Earth Day events; she also organized a similar trip to China with artists there. She founded Sweetwater Alliance in 2002 with a mission that includes ecological restoration of riparian areas through a fusion of art, science, education, and community involvement.

Business: No. 2 Septic owners Josh and Brenda Rowley bought their sewage and waste collection business in 2005 with a goal of making it more environmentally friendly and sustainable. Josh says, "We wanted to be as conscientious as possible about the impacts of our business on the environment." In 2006, the Rowleys began making biodiesel fuel to

eventually power their collection vehicles out of used vegetable cooking grease picked up from area businesses. In their own garage, the couple makes numerous 40-gallon batches of biodiesel fuel per month after collecting it from about 15 to 20 businesses in Ashland, Mason, Drummond, Bayfield, and other communities.

Industry: Bretting Manufacturing voluntarily replaced almost 720 fixtures of mainly high-intensity discharge (HID) conventional fluorescents and with high-intensity fluorescent fixtures in their facility in 2006. This lighting change reduced lighting power by the equivalent of 102,068 gallons of gasoline per year, resulting in a 47 percent saving of 1,236,428 hours. This equals savings, in a typical year, of 1,205 tons of carbon dioxide, 329 tons of carbon, 5.2 tons of sulfur dioxide, and 2.5 tons of nitrogen oxides from entering the atmosphere.

Organization: Lake Superior Streams.org Team addressed the need to protect Lake Superior Basin streams, and the coastal zone of Lake Superior from stormwater impacts by enhancing public understanding of streams and their connections to watershed land use. The focus is on making environmental data, in particular real-time data from “flashy” streams typical of coastal tributaries to Lake Superior, readily accessible and easily interpretable to managers and the public for use in decision-making and for education and awareness.

Canada

Organization: Friends of Chippewa Park. Friends of Chippewa Park have been successful in restoring this long-time popular swimming area on Lake Superior. The initiative involved rehabilitating the beach and swimming bay at Chippewa Park. Project goals included improving the water quality and en-



Raspberry Island, Apostle Islands of Lake Superior

suring the long-term safety of the swimming area. Clean-up of the public beach entailed dredging and grading, and the addition of new sand and rip-rap (anchored rocks). Plans also included constructing a wooden retaining wall and a gravel walkway along the beach to prevent land-based runoff into the water. Vegetation was planted to further reinforce stability and contain runoff.

Honorable Mentions:

Youth: The Anishinabek of the Gitchi Gami (AGG) is an emerging grassroots, youth-driven organization that facilitates community engagement, empowers young people, and catalyzes action. The major project has been a youth-led exploration of environmental health issues on their reserve. A group of young people set out to identify, photograph and map their community’s environmental concerns including illegal dumpsites, hazardous waste, and garbage burning. The group identified 250 illegal ‘backyard’ dump sites in the community the Fort William First Nation reservation.

Individual: Karin Grundt cleaned up the garbage left in the ditches and roadways in Wawa. She began with two other volunteers in 1992 forming a “Garbologist’s Coalition” to promote anti-littering, but Karin has continued solo since about 1993. She has picked

up garbage every spring without fail since 1992. Each year the garbage is collected at the Municipal Garage, photographed and published in local media to promote local knowledge of this problem. She also writes a seasonal column to educate readers about this issue. Karin has also written to a number of politicians about this issue.

(Contacts: E. Marie Wines, 312-886-6034, wines.emarie@epa.gov; or Elizabeth LaPlante, 312-353-2694, laplante.elizabeth@epa.gov)

Lake Superior Placemats

The Lake Superior Binational Forum and Superior Work Group recently distributed 85,000 placemats in the Minnesota, Wisconsin, Michigan and Ontario parts of the Lake Superior watershed, 60,000 more than were printed last year. The placemats are made from recycled paper and soy-based ink. Most of the placements went to restaurants but libraries, visitor centers and camps were also recipients. The simple design includes some word games for children, interesting facts about Lake Superior and a list of *12 Ways You Can Protect the Lake Every Day*. According to one of the volunteer distributors "...restaurants were enthusiastic and one restaurant owner who came back for more said that she could not believe how well received they were – not just by kids, but whole families that poured over them, particularly people who had not been to the area before." This is the second year that the Minnesota Pollution Control Agency, which receives funding from GLNPO, has printed the placemats. The 12 Ways You Can Protect the Lake Every Day:

1. Create an energy-efficient home.
2. Install water-saving devices.
3. Never burn garbage.
4. Try to reduce, reuse, recycle and repair.

5. Take household hazardous materials to hazardous waste collections.
6. Never pour oil or other used liquids into a storm drain.
7. Put your lawn on a chemical-free diet.
8. Inspect your boat and trailer and removes any plants and animals before leaving a boat access.
9. Landscape with plant that are native to the region.
10. Plant trees to capture carbon dioxide and prevent erosion.
11. Use a rain barrel for gardening and washing the car.
12. And most importantly, love Lake Superior!

(Contact: Elizabeth LaPlante, 312-353-2694, laplante.elizabeth@epa.gov)

Lake Superior Watershed Signs

Visitors and residents of the Lake Superior basin in Minnesota will now know when they have crossed the line – the watershed boundary line, that is! The Minnesota Pollution Control Agency recently finished installation of 21 watershed signs over the 6,200 square mile Lake Superior basin. Placed along county and state highways, the signs list both the basin and the particular watershed, for example the St. Louis River. This project concept originated with the Lake Superior Binational Forum, which earlier placed a few



Sign marking Lake Superior basin boundary

similar signs in Michigan and Wisconsin. The purpose of the signage is to inform the public of where the basin boundary is and to encourage people to think in terms of their watershed.

(Contact: Elizabeth LaPlante, 312-353-2694, laplante.elizabeth@epa.gov)

Making Lake Michigan Great 2007 Boat Tours

Since 1998, the research and education vessel *W.G. Jackson* has been spreading the word about the Lake Michigan Lakewide Management Plan through the *Making Lake Michigan Great* educational tours. Throughout the years, 30 ports of call have been visited reaching four states. Local hosts have coordinated groups for hands-on water quality sampling cruises. Participants in tour activities learn about Lake Michigan and have the opportunity to network about lakewide concerns. Tour funding has come mainly from GLNPO. Other partners for the 2007 tour included the Waukegan Citizen's Advisory Group, Pier Wisconsin, U.S. Park Service, and the Milwaukee Metropolitan Sewerage District.

(Contact: Judy Beck, 312-353-3849, beck.judy@epa.gov)

CONTAMINATED SEDIMENTS Kinnickinnic River Great Lakes Legacy Act Project Agreement Signed

On June 22, 2007, a Great Lakes Legacy Act Project Agreement was signed by U.S. EPA and Wisconsin Department of Natural Resources (WDNR) for the Supplemental Design and Remedial Planning phase of the Kinnickinnic River sediment remediation project. The scope of work for this agreement is to perform supplemental design activities to



Making Lake Michigan Great 2007 in Waukegan, IL

finalize the remedial design. The concept design proposed by WDNR calls for mechanically dredging up to 170,000 cubic yards of sediments containing high concentrations of PCBs, PAHs, and other contaminants from the 2,000 ft long stretch of the Kinnickinnic River immediately upstream of the federal navigation channel. It is anticipated that this phase of the project will be completed by the end of 2007. At that time, the project could potentially move to the remediation phase if the project meets U.S. EPA's selection criteria identified in the Great Lakes Legacy Act Implementation Rule, and is agreed to by U.S. EPA and the Wisconsin Department of Natural Resources.

(Contact: Ajit Vaidya, 312-353-5713, vaidya.ajit@epa.gov)

Lower Buffalo River Sediments Sampled

From June 4th - 15th, 2007, the *R/V Mudpuppy* was in Buffalo, New York sampling the sediment in the Lower Buffalo River and City Ship Canal as part of the Great Lakes Legacy Act Remedial Investigation/Feasibility Study (RI/FS) Project (cost-shared by GLNPO and the Buffalo Niagara Riverkeeper). The U.S. Army Corps of Engineers Buffalo District provided their pontoon boat and staff to assist with the sediment collection. Approximately

132 sediment cores were collected with the *R/V Mudpuppy* and transferred to the Corps' boat for processing. The Corps also collected 43 surface sediment samples and water samples at 19 locations. The New York State Department of Environmental Conservation shipped approximately 275 samples to be analyzed for metals, PAHs, PCBs, pesticides and total organic carbon. Additionally, GLNPO collected sediment samples for sediment toxicity analysis (13 samples) and geo-technical properties analysis (25 samples). Results are expected to be received by August and the data will be used to determine where to focus the feasibility study, which is anticipated to begin in January 2008.

(Contact: Mary Beth G. Ross, 312-886-2253, ross.marybeth@epa.gov)

POLLUTION PREVENTION

AWRA Conference on Emerging Chemicals

GLNPO's Ted Smith and Illinois-Indiana Sea Grant outreach specialist Susan Boehme attended the American Water Resource Association's 2007 Summer Specialty Conference on "Emerging Contaminants of Concern in the Environment, Issues, Investigations, and Solutions" in Vail, Colorado on June 25th to 27th. Susan Boehme made a presentation on "Medicine Disposal: Sources, Environmental Concerns and Initiatives," on behalf of IL/IN Sea Grant and GLNPO. Among the topics covered in the Conference were analytical methods (including exposure methods), urban and agricultural sources and impacts, fate and transport in surface and groundwater, and from land applied biosolids, advanced treatment technologies, wildlife health effects, law and policy considerations, and interagency collaboration and cooperation. Much of the Conference was focused on sources and impacts of natural and artificial steroidal hormones as well as other pharma-

ceuticals, and on compounds that exert estrogenic effects in the environment, such as plasticizers and surfactants.

(Contacts: Ted Smith, 312-353-6571, smith.edwin@epa.gov or Susan Boehme, 312-353-4383, boehme.susan@epa.gov)

Burn Barrel and Pharmaceutical Resource Kits Online

Two of GLNPO / Illinois-Indiana Sea Grant's toxics reduction outreach projects under the Great Lakes Regional Collaboration will now reach wider audiences. Resource kits on alternatives to trash burning and safe methods for medicine disposal are now available online at Illinois-Indiana Sea Grant's Web Site at www.iisgcp.org/learnnot2burn and www.iisgcp.org/unwantedmeds. The resource kits will continue to be available in print and on CD as well.

(Contact: Ted Smith, 312-353-6571, smith.edwin@epa.gov)

Bernie the burn barrel character used in education and outreach discouraging the use of burn barrels



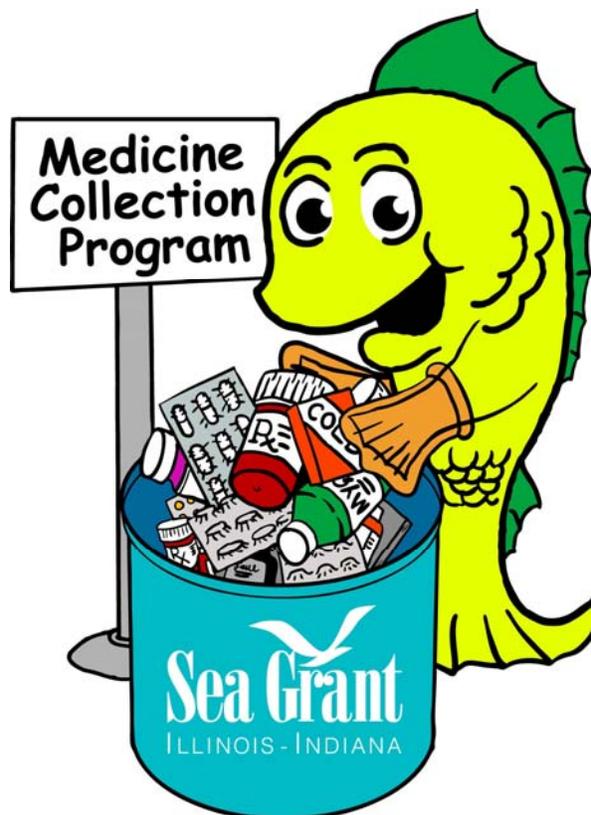
Indiana Rivers Rally at Purdue

ORISE Intern associate Jessica Winter presented a poster “Keep the Water Clean - Don’t Flush Your Medicine” at the Indiana Rivers Rally at Purdue University on June 7th. The Indiana Rivers Rally is a conference bringing together local watershed conservation groups, paddling enthusiasts, staff from state and local environmental agencies and water departments, and academic researchers. 2007 was the first year of what may become an annual event. Jessica spoke with conference attendees about the effects of pharmaceutical chemicals in the aquatic environment and distributed copies of Illinois-Indiana Sea Grant’s pamphlet on safer disposal options for unwanted/excess medicines. She also highlighted Sea Grant’s resource kit on organizing medicine collection programs and invited attendees to participate in Sea Grant’s upcoming medicine collection workshop in Indianapolis. Approximately 170 people attended the Rivers Rally and many expressed concern regarding the issue of pharmaceutical chemicals in the environment and interest in solutions to the problem.

(Contact: Jessica Winter, 312-353-3212, winter.jessica@epa.gov)

Unwanted Medications Collection Workshop in Indiana

On June 20, 2007, ORISE associate Jessica Winter and Illinois-Indiana Seagrant outreach specialist Elizabeth Hinchey Malloy were invited presenters at “A Workshop for the Collection of Unwanted Medications in Indiana.” The Indiana Household Hazardous Waste Task Force organized the workshop with support from Illinois-Indiana Sea Grant and the Indiana Department of Environmental Management. This meeting grew out of a workshop in March in Illinois co-organized with the Illinois Counties Solid Waste Management Association. Over 50 people attended



Logo from resource kit on proper disposal of unwanted medications

the Indianapolis workshop. Participants included Indiana county solid waste managers, county public health offices, hospice and home health care staff, members of Indiana chapters of AARP, and state pharmacy inspectors. All participants received the newly released resource kit produced by Illinois-Indiana Sea Grant entitled “Disposal of Unwanted Medicines: A Resource for Action in Your Community.”

This workshop covered the problems presented by medication disposal and trained attendees how to conduct a community collection for unwanted medications. Hinchey Malloy presented an overview of the issue (“Medication Disposal - What’s the Problem?”) and Jessica Winter guided participants through the chapters of the “Disposal of Unwanted Medicines: A Resource for Action in



Persistent chemicals like lindane can be transported for great distances through the “grasshopper effect”

Your Community.” Solid waste managers from Indiana (Scott Morgan, Monroe County Solid Waste Management District; Mike Good, Marshall County; and Steve Johnson, Wabash County) shared their insight and experiences with organizing medicine collection programs. Kristin Brier of the Indiana Department of Environmental Management presented information on state grant availability and application procedures for local collection programs. Question and answer sessions allowed participants to discuss a wide variety of issues relating to medicine disposal. At least one workshop participant has already indicated plans to start a collection using information gleaned from the presentations and discussions, while others have indicated that they will use the information presented to improve their existing programs.

(Contacts: Jessica Winter, 312-353-3212, winter.jessica@epa.gov or Beth Hinchey Malloy, 312-886-3451, hinchey.elizabeth@epa.gov)

Report on Lindane in China

Lindane (chemical name gamma-hexachlorocyclohexane, or gamma-HCH) is an organochlorine chemical used as an insecticide and fumigant. Phase I of a study partially funded by GLNPO on lindane in China was submitted to the Commission for Environmental Cooperation for review and comment. During the 1950s and the beginning of the 1980s, China was one of the major users of technical HCH in the world. Although the use of these chemicals was banned by the Chinese government on April 1, 1983, after 40 years of use, HCH residues are still found in air, soil, water, food, and living organisms, and lindane had been still produced and used in China until 2003.

In order to better understand the implications of the use and emissions of lindane in China on North America, an agreement between the CEC, an international organization established by the North American Agreement on Environmental Cooperation, and Harbin Institute of Technology reached an agreement on the joint project “China – Canada Joint Project on Reduction of Lindane Usage in China and its Impact Globally and on North America. The Phase I report contains the following 3 deliverables of Project.

1. Lists referenced lindane producer(s) and determines the nature of the product offered for export (technical HCH, lindane or formulated lindane products) and attempt to determine the importing countries;
2. Provides referenced information on current pollution status of HCH isomers in China;
3. Provides emission/residue inventories of HCH isomers in China.

(Contact: Ted Smith, 312-353-6571, smith.edwin@epa.gov)

AREAS OF CONCERN

Achieving Restoration Targets and Sustaining Stewardship in Areas of Concern

Participants from U.S. Great Lakes Areas of Concern (AOC) met in Cleveland, Ohio, June 28th and 29th, 2007, to review recent developments affecting the AOC program and assess Great Lakes Regional Collaboration recommendations. The agenda for the “Great Lakes Areas of Concern: Achieving Restoration Targets and Sustaining Stewardship Conference” included an AOC status report, a historical perspective, and breakout sessions to discuss contaminated sediments, fish and wildlife restoration, the role of local Remedial Action Plan (RAP) groups, and delisting. Several invited foundations gave their perspective on Great Lakes restoration, and local RAP participants spoke about their successes and key challenges. GLNPO habitat staff offered to help the development of blueprints for habitat-related beneficial use impairments. During the opening session of the conference, GLNPO’s David Cowgill spoke on “Progress in Cleaning Up Contaminated Sediments Under the Great Lakes Legacy Act.” The presentation was an overview of how the Legacy Act functions and what projects have been completed and are underway with a focus on how communities got the projects funded, and a summary of the overall achievements and challenges. Two breakout sessions on contaminated sediments were held on Thursday afternoon. The first, chaired by GLNPO’s Marc Tuchman, was a discussion of “Options For Generating Non-Federal Funding And Public Involvement in Sediment Cleanups Under the Great Lakes Legacy Act (GLLA) and Other Programs.” That session was highlighted by discussions on funding sources from representatives from previously funded GLLA projects. The second session, “Contaminated Sediments: Assessment and

Remedial Tools and Technologies” described the types of analyses that can be used to define a remediation project and the technologies available for remediation. The session also included a discussion on sustainability considerations and ways to develop a long-term sustainable vision to the site before remediation to engage the community.

(Contacts: (Contact: Mark Elster, 312-886-3857, elster.mark@epa.gov; David Cowgill, 312-353-3576, cowgill.david@epa.gov; Marc Tuchman 312-353-1369, tuchman.marc@epa.gov; Susan Boehme 312-353-4383, Boehme.susan@epa.gov; Ajit Vaidya 312-353-5713, vaidya.ajit@epa.gov; Eric Stern, 212-637-3806, stern.eric@epa.gov; Karen Rodriguez, 312-353-2690, rodriguez.karen@epa.gov; Danielle Green, 312-886-7594, green.danielle@epa.gov)

Buffalo River Mini-Summit

On June 4th, 2007, representatives of GLNPO (David Cowgill and Mary Beth G. Ross) and Illinois-Indiana Sea Grant (Susan Boehme) attended the Buffalo River Mini-Summit in Buffalo, New York. The event was coordinated by Buffalo Niagara Riverkeeper, in cooperation with the New York State Department of Environmental Conservation and GLNPO. The purpose of the meeting was to encourage dialogue among all stakeholders and provide information on the past, present,



Dave Cowgill speaks at the Buffalo River Mini-Summit while the R/V *Mudpuppy* samples river sediments



Lake Michigan Regional Team Manager Judy Beck with Dr. Natsadorj, the Khamba Lama of Mongolia

and future of the Buffalo River. David Cowgill presented an overview of GLNPO's Remedial Action Plan (RAP) Program and the status of Great Lakes Legacy Act projects within the Great Lakes. Mary Beth G. Ross and Byron Rupp of the U.S. Army Corps of Engineers Buffalo District co-presented the various ways the two Federal agencies are collaborating on Buffalo River projects. Following the presentations, a press conference was held in part to celebrate the May 9th, 2007 signing of an \$800,000 Project Agreement between U.S. EPA and the Buffalo Niagara Riverkeeper for a Remedial Investigation/Feasibility Study (RI/FS) of the Lower Buffalo River and City Ship Canal. The event also included a guided luncheon tour of the AOC aboard the *Miss Buffalo II*. Representatives from many local stakeholder groups were also in attendance, including U.S. Congressman Brian Higgins.

(Contacts: David Cowgill, 312-353-3576, cowgill.david@epa.gov; Mary Beth G. Ross, 312-886-2253, ross.marybeth@epa.gov; Susan Boehme, 312-353-4383, boehme.susan@epa.gov)

OUTREACH / EDUCATION

Peace and Water Conference Features Lake Michigan

GLNPO's Judy Beck, Lake Michigan Team Manager, spoke at the Northeastern Illinois University's "A Gathering of Peace and Water for Our World - the Ripple Effect" in Chicago on June 21, 2007. The conference explored both the ecological status of the Great Lakes from a scientific perspective as well as the spiritual attachment to water in the cultures of the world. Those presenting included: Debra Perryman, Illinois Teacher of the Year; Osahmin Judy Meister, Elder of the Miniss Kitigan Drum of the Ojibway; Debra Shore, Commissioner of the Water Reclamation District of Greater Chicago; Rory Donnelly, Friends of the Chicago River; and Bill Kurtis, Emmy Award winning journalist and television producer of the show "The New Explorers." The theme of the conference was concern over stewardship of the water resources of the world with Lake Michigan as the example. On June 29th, Beck also provided opening remarks at the conference-sponsored "sunrise ceremony" held at the Shedd Aquarium on Chicago's lakefront. The highlight of the ceremony was the blessing of Lake Michigan, performed by honored guest Dr. Natsadorj, the Khamba Lama of Mongolia.

(Contact: Judy Beck, 312-353-3849, beck.judy@epa.gov)

EPA is Goin' Green at Taste of Chicago

"Recycle electronics, save energy, conserve water, and landscape wisely" was the message delivered by U.S. EPA staff at the *Goin' Green Pavillion* at the annual Taste of Chicago festival from July 5th to 7th this year. U.S. EPA's tent, which was organized by the Office of Public Affairs, was visited by an estimated 700 people eager to pickup reading

material and talk about at-home conservation measures. Illinois-Indiana SeaGrant outreach specialist Beth Hinchey and ORISE associates Jackie Adams, Jessica Winter, and Melissa Simon joined a dozen other U.S. EPA representatives in engaging the public on the issues of pollution prevention and conservation. With help from GLNPO's Danielle Green and GLNPO's Green Acres program, Simon gave a presentation on Natural Landscaping which highlighted the ecological benefits of planting native species. The Chicago Botanic Garden donated more than 20 eye-catching plants for the demonstration. U.S. EPA representatives answered questions on a wide range of topics including how to landscape using little water, how to dispose of medicine appropriately, and where to recycle electronics. The City of Chicago invited U.S. EPA to a planning meeting for next year's Green Pavilion at the festival.

(Contact: Melissa Simon, 312-886-0995, [si-mon.melissa@epa.gov](mailto:simon.melissa@epa.gov))

RESEARCH AND MONITORING

Spill of National Significance

Personnel from the Great Lakes National Program Office and crew aboard GLNPO's 180-foot research ship *R/V Lake Guardian* participated in an exercise responding to a supposed large-scale diesel fuel spill in Lake Michigan on June 19th and 20th. The exercise tested the readiness of the Coast Guard, Navy and U.S. EPA to respond to such a disaster. The *Lake Guardian* served as a sampling platform, and as staging for victim evacuation which included a number of practice lifts by a Coast Guard rescue helicopter. Members of the Coast Guard, Marines, OSHA and U.S. EPA were aboard the ship to observe and take part in the exercise.

(Contact: Paul Horvatin, 312-353-3612, horvatin.paul@epa.gov)



A U.S. Coast Guard helicopter hovers over the *R/V Lake Guardian* on Lake Michigan

Lake Erie Dissolved Oxygen Survey

The latest Lake Erie dissolved oxygen survey took place on June 11th and 12th in the Central Basin of the lake. This is part of a continuing program to monitor the oxygen levels in this area of the lake, which often develops a "Dead Zone" of very low oxygen. Accompanying the survey were reporters from Channel 3 TV in Cleveland who are working on a four-part series on Lake Erie problems, and a Canadian filmmaker (Primitive Entertainment) making a documentary entitled "Waterlife" in association with the National Film Board of Canada.

Areas of low oxygen in the water column have been recorded annually over the last several decades in Lake Erie's Central Basin. Low oxygen levels in the water column stress local plant and animal species that depend on oxygenated water for normal respiration processes. The annual low-oxygen zones, referred to as hypoxic or anoxic zones (or popularly, "dead zones"), are often linked to excess nutrient run-off into the lake. The dissolved oxygen study is a focused investigation of oxygen content and key nutrient levels like phosphorus in the Central Basin of Lake Erie to assess improved or declining conditions over time.

The Lake Erie Dissolved Oxygen Study collects temperature, dissolved oxygen, chlorophyll and turbidity profiles of the water column with the SeaBird remote sensing apparatus.

(Contact: Todd Nettesheim, 312-353-9153, nettesheim.todd@epa.gov)

GLNPO Scientists Present at Great Lakes Research Conference

Eleven GLNPO scientists and associates attended the 50th Annual Conference of the International Association for Great Lakes Research in State College, Pennsylvania from May 28th to June 1st, 2007. The theme of this year's conference "50 years of Great Lakes Research: Past, Present, and Future." GLNPO was one of the sponsors of the conference.

Papers presented at the conference by GLNPO scientists and associates were:

- "A Retrospective Look at the Assessment of the Great Lakes" by May, J.C., J.M. Adams, P.E. Bertram, P.J. Horvatin, and C.M. Zuccarino-Crowe.
- "The State of the Great Lakes - A Mixed Message" by Zuccarino-Crowe, C.M., J.M. Adams, P.E. Bertram, P.J. Horvatin, and J.C. May.
- "Connecting students to Great Lakes researchers through outreach aboard the U.S. EPA's R/V Lake Guardian" by Adams, J.M., E.K. Hinchey Malloy, C.M. McConaghy, and P.J. Horvatin.
- "GLEAMS, Great Lakes Educators of Aquatic and Marine Science: Out of Dry Dock and Coming Soon to a Classroom Near You...the Voyage Resumes!" by Hinchey, E.K., R.W. Fortner, R.G. Goettel, J.A. Adams, and T.B. Hallesy.
- "Bacteria, beaches and Swimmable waters: Has Bacterial Contamination Increased?" by Rockwell, D.C., H. Wirick, and C. Kovatch.

- "The Great Lakes Offshore Biological Desert" by Rockwell, D.C., G.J. Warren, M.D. Balcer, and M.D. Agbeti.
- "Air-Water Exchange of Mercury in Lakes Michigan and Superior" by Jeremaison, J., L. Kanne, T. Laco, M.L. Hulting and M. Simcik.
- "Future Directions in Atmospheric Monitoring Systems and Techniques" by Perlinger, J.A., M.L. Hulting, B.B. Hicks, and J.E. Dettling.
- "Distribution of Toxic Substances within a Large Wastewater Treatment Plant and in Downstream Surface Waters" by Nettesheim, T.G., Barber, L.B., Gray, J.L., Zintek, L., Whipple, W., and Jayaraj, J.
- "Is the Nearshore Shunt Moving Offshore?" by Warren, G.J., Horvatin, P.J., Balcer, M.D and Rockwell, D.C.,
- "Incorporation of a multi-wavelength fluorometer into a Great Lakes monitoring program" by Warren, G.J., Horvatin, P.J.
- "Great Lakes Fish Contaminants Laboratory Performance Study" (poster session) by Murphy, E.W. and S. Backus.

In addition to the papers presented, GLNPO's Dave Rockwell co-chaired the "Eutrophication Management in the Great Lakes: How Did We Do It In the Past and Where Should We Go In the Future" session and GLNPO's Melissa Hulting co-chaired the session "Toxic Chemicals in Great Lakes Air" session.

(Contact: Paul Horvatin, 312-353-3612, horvatin.paul@epa.gov)

We welcome your questions, comments or suggestions about this month's Significant Activities Report. To be added to or removed from the Email distribution of the Significant Activities Report, please contact Tony Kizlauskas, 312-353-8773, kizlauskas.anthony@epa.gov.